
Ramon y Cajal studied the retinae of a wide variety of vertebrates using the Golgi technique, and from his results established the relationships of the retinal cell families. He published mainly in his native Spanish, and in journals without a wide circulation; in 1892, realizing that his papers were somewhat inaccessible, he published his monograph on retinal structure in French in 'La Cellule'. Two years later Richard Greeff published a German translation of this monograph, adding notes of his own as well as Ramon's. The present translators, drawing on both versions and on Ramon's revision of 1943, have at last produced an English version of the work.

The importance of Ramon's retinal studies is still apparent to-day; although the work has been extended, notably by Polyak and the Dowling school, little of it has been superseded. Ramon covered enough species to make clear the basic uniformity of vertebrate retinal structure, while also bringing out the differences between groups and even between species; the later workers owe much to his pioneer investigations and development of the Golgi method.

The translators have done their task well. The text follows the original closely enough for the sense to be retained, yet they have achieved a readable style. A few alterations might perhaps have improved it even further: Ramon uses the terms upper and lower to denote the processes of bipolar cells, and these are ambiguous unless the orientation of the retina is defined first. Inner and outer or vitreal and scleral are less ambiguous. It is not always clear whether the footnotes are those of Ramon or the later additions of Greeff, though the latter always made plain which were his. There are one or two mis-spellings; for example, Krause's membrana fenestrata becomes finestrata.

The positioning of the contents page after Greeff's introduction and review of the literature moves it 39 pages into the book; it might have been better at the customary place at the beginning. The plates are slightly reduced from the originals; this does not detract from their usefulness, but the quality of reproduction does not do them the justice that they and the rest of the book deserve. The references have been moved from footnotes to the more usual place at the ends of the chapters, and they have been given more fully than in the originals.

Ramon y Cajal's writings are still worth publishing in their own right, and a well-executed English translation will be welcome to all interested in retinal structure, either for its own sake or as the background against which they pursue their own studies.


The author has improved this book by including many new illustrations and enlargements of previous illustrations. The photograph of iritis shows all that one needs to teach on the diagnosis of this condition. Not everyone would agree with the author's opinion that diabetic retinopathy inevitably leads to gross visual defect, although this has been the biased view of ophthalmologists called in to improve vision in these conditions.

The book will continue to serve the medical student and general practitioner as it has done in its previous five editions.


This extremely elementary introduction to perimetry is written for trainee technicians. A simple diagram is followed by a series of questions (the answers are given at the end of the book), and occasional more detailed notes. With the increase in the number of perimetric technicians, this introduction will provide a useful service, but it will be of little value to the ophthalmologist.